

**MULLANEY ENGINEERING, INC.**

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OCT 20 1993

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

In the Matter of

Biennial Regulatory Review --  
Streamlining of Radio Technical Rules in  
Parts 73 and 74 of the Commission's Rules

MM Docket No. 98-93

**Comments of Mullaney Engineering, Inc.**

Mullaney Engineering, Inc. (MEI), has reviewed the Notice of Proposed Rule Making (NPRM) and submits the following comments and suggested changes.

**Negotiated Interference**

Mullaney Engineering is in favor of negotiated interference between FM stations of all classes regardless of whether the station is located in the commercial or non-commercial bands. The rules should be revised to permit some amount of new interference to be created. However, we believe that a determination of the public interest should be mainly focused on the populations which are predicted to receive interference and not the amount of area which is predicted to receive interference. Use of area on an equal basis as population provides an unbalanced protection of un-populated areas (such as mountains, deserts & swamp lands).

**What is Interference**

While most people believe that the FM rules are designed to avoid interference this is simply not true. The use of a protected contour is an administratively convenient way to define "objectionable interference". Broadcasting like many other services (such as cellular) is administered or designed on the basis of controlled interference. That is

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one determines the desired radius of service, the technical equipment available (receiver sensitivity & rejection) and then controls the placement of co-channel and adjacent channel stations to minimize the possibility that interference will occur. It should be noted that the technical equipment available quite often permits reception well beyond the desired radius of service and that protection of that extended distance would limit the number of stations that could be constructed and, therefore, such additional protection would not serve the public interest. Commercial FM is administered on the basis of compliance with a spacing table. However, there are many instances where both stations comply with the spacing table and yet actual interference, as defined by the protection criteria contained in the FM rules, occurs. However, it is not considered "objectionable interference" since no short spacing is involved. The bottom line is that interference always occurs the only question is whether the locations involved fall into the category of "objectionable interference".

While the rules should be modified to permit some degree of interference they should also be modified to permit one to avoid interference. That is a given station should be permitted to propose a directional antenna, reduction in ERP or reduction in HAAT (in any combination) for the sole purpose of avoiding interference. Along this same line, these same techniques should be permitted to avoid a violation of other rules not involving interference (RF Exposure or Duopoly).

### Interference Received vs: Interference Caused

There should be a clear distinction between interference received and interference caused. In instances where the proposal involves only interference received there should never be the requirement to obtain the permission of the other station which is causing the interference. Such a requirement opens up the door to legal "green-mail" which never serves the public interest. We have seen instances where a 3 kW Class A station, which would receive interference from a higher class station, is prevented from filing under Section 73.213 because it was unable to negotiate or simply unable to afford (\$\$\$) a mutual agreement with the other station despite the fact that no interference was caused to that other station.

In addition, the threshold public interest showing to justify received interference should be much lower than when interference is being caused. Over the years, we have seen instances where educational FM proposals were denied because they received co-channel or 1st adjacent interference. There is even one instance that we are aware of where the ability to "received" interference permitted the proposal to provide a "first non-commercial service" and yet that proposal was dismissed under the excuse of not serving the public interest. In our opinion, such a denial of new service is without logic and without a doubt contrary to the public interest. While admittedly some new received interference would be created it should also be understood that such a proposal would result in new service to the public that would not otherwise exist. It would appear that such proposals "re-cycle" the spectrum and in today's "politically correct" society what is better than the re-cycling of non-renewable resources (water, oil, wood,

paper, metal and not frequencies or spectrum). This is essentially just another name for the concept of controlled interference or a new definition or limit of "objectionable interference".

In opposition, many people say that proposals which involve interference are an "inefficient use of the spectrum". In addition it is argued that such proposals potentially preclude the use of that spectrum by other proposals which do not involve interference and thus are more (?) efficient even when lower populations are involved. To counter this argument, we point out that many years ago the FCC abandoned the concept of preclusion studies whereby it would evaluate if a given FM proposal provided the greatest public benefit or the "biggest bang for the buck". When these studies were required the FCC sometimes decided to deny the specific proposal under consideration because the FCC believed that the spectrum could be more efficiently used by another city notwithstanding the fact that that city had never voiced a desire for said service. In addition, the FCC has since gone another step away from the preclusion evaluations of the past since it now processes applications for minor modifications of facilities on a "first come, first serve" basis. The FCC justified such a historic change in philosophy on the fact that all of broadcasting (AM, FM & TV) had been around for over 40 years and thus was a mature service and that continuing the practice of permitting applications to become mutually exclusive many months after they were filed (by later filed proposals) unduly delays service and, therefore, did not service the public interest. Based upon this we believe that it is now time to permit proposals which "receive" interference to qualify for granted.

### **"New" Received Interference**

When a station proposes to expand its coverage contour into an area where an overlap of that coverage contour occurs that is not an inefficient use of the spectrum. When an overlap of contours occurs not all of the overlap results in interference. Some of the overlap results in "interference-free" service that never before existed. Thus the expansion of the coverage contour permits the station to essentially "beat back" the existing interference contour of the other station and create or "re-cycle" a new area of "interference-free" service. Since the interference is in an area where service does not presently exist that interference should not be defined as "objectionable interference". Keep in mind that the area involved is currently outside the protected contour and is within the existing interference contour of another station. Thus no service currently exists. The fact that the proposal does not provide service in the future is no reason to deny the request to receive interference.

When an application is filed that does not propose "maximum" facilities the staff does not deny that application on the basis that it is an "inefficient use of the spectrum". Similarly, the staff should no longer deny an application simply because it does not have 100% "interference-free" service.

### **Section 73.215 - Contour Protection**

The minimum distance separation table contained in Section 73.215(e) should be totally eliminated. The requirement for a station to provide a city grade contour over its city of license and the limits on directional antenna suppression is sufficient to prevent excessive abuse. In addition, to

being unnecessary and in light of the concept of negotiated interference such an arbitrary restriction is totally absurd.

In the past the staff has generally refused to grant waivers of this table despite the fact that no interference (received or caused) was involved. Given the current proposal to permit two stations to negotiate interference it seems totally unjustified to arbitrarily deny an application that proposes no such interference on the basis of the "next lower class spacing".

If the minimum spacing table remains then the rules should be modified to make an exception for situations involving a commercial station on Ch. 221 and a non-commercial Class B or B1 station located in Zones I or I-A and which operates on Ch. 220. Non-commercial stations unlike the commercial stations that this table was designed for are protected only to the 60 dBu contour regardless of class while commercial Class B & B1 stations are protected to the 54 dBu and 57 dBu contours respectively. Therefore, the permissible short spacing involving a non-commercial Class B or B1 facility is significantly & unjustifiably restricted.

Section 73.215 should also be modified to take into account and grandfather in whole or in part what interference "naturally" occurs when the station is properly spaced.

As an example the required separation between a Class A and a Class B facility operating on 1st adjacent channels is 113 km. However, if one works out the actual separation to prevent any interference (assuming flat earth) the required separation is actually 125 km. Section 73.215 requires the station proposing a 1 km short spacing to compensate for not only the proposed

1 km but also for the built-in 12 km shortage for a total protection of 13 km.

As another example, consider stations located on the edge of a large mountain range (such as Mt. Wilson in Los Angeles). In such cases, the HAAT on specific radials can vary widely (two three and four times) from the average HAAT which is used to establish the equivalent maximum ERP. In directions where the stations enjoy excessive HAAT they cause contour overlap (not objectionable interference) to other stations which are properly spaced but are near minimum separation. Any short spacing by either station requires the total elimination of all interference not the the incremental interference which results from the proposed move.

#### **Taking Stations Dark to Avoid Interference**

The new rules proposed to permit non-commercial stations to be taken dark in order to avoid interference with another commercial or non-commercial FM station. This concept is not new since it is already permitted in AM Broadcasting. In addition, some mechanism needs to be in place to permit commercial FM stations or vacant allotments to be taken dark.

In the past it has been nearly impossible to convince the staff to delete a vacant FM allotment (even in instances of objections by the FAA). Under the concept of "first come, first serve" and the new dictate to auction off broadcast spectrum it appears that the elimination of existing allotments (used or unused) should be permitted.

### Well Served Areas

The proposed rules require an evaluation of the number of other services that currently service an area. While we believe that this is generally unnecessary we believe the current requirement proves little. The current method does not require the applicant to establish how many stations provide "interference-free" service but simply how many stations have a theoretical contour serving the area. If one is going to play this game then one should play it correctly. Only stations which provide "interference-free" service should be counted. Stations with grandfathered short spacings or which suffer interference due to widely varying HAATs should not be counted unless they actually provide "interference-free" service.

### Creation of New Class C0

As the NPRM indicates far too many Class C FMs are just barely above the minimum HAAT required (300 meters) and only a few are at the maximum permitted (600 meters). Thus these stations are an inefficient use of the spectrum. The creation of a Class C0 is a potential first step. However, other Classes of FM stations are similarly over protected and thus are an inefficient use of the spectrum. There are many stations in mountainous areas which operate with negative HAATs and which under Section 73.215 are also protected for maximum.

Thus we propose that Section 73.215 be modified to state that stations will be protected for 50m or 100m more than their existing HAAT (not to exceed the maximum for the class). This will provide some flexibility for future modifications by that station but more importantly will encourage stations to build the best possible facilities as



soon as possible.

**Definition of Minor Change"**

The definition of minor change for AM stations is clearly in need of revision. It should be similar to that afforded commercial FM stations. Non-commercial stations should no longer be constrained by the 50% change in area concept. Changes of frequencies of cut-off applications should also be permitted (even non-adjacent channels) when it helps to resolve conflicts. This is especially true for FM translators.

**Class D FM Stations**

The Class D section of the rules should be updated to require protection of the 54 dBu & 57 dBu contour for Class B & B1 facilities.

Respectively submitted.

  
John J. Mullaney

October 19, 1998.